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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,568	10/06/2000	Yukio Tanaka	SEL 219	2087

7590

08/13/2002

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EXAMINER

JORGENSEN, LELAND R

ART UNIT

PAPER NUMBER

2675

DATE MAILED: 08/13/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,568

Applicant(s)

TANAKA, YUKIO

Examiner

Leland R. Jorgensen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figure 17 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, “(h, k)” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: Nonstandard English is used through out the specification, making it difficult to read. For example, the following paragraphs found on page 2 makes little sense.

What comes to draw attention recently, in addition to a large size active matrix liquid crystal panel used as a display device of a personal computer, is a small one that is to be used in a front projector, a rear projector, and an HMD (head mount display). Smaller is better for the small size active matrix liquid crystal panel used for these electronic devices, and now a panel sized about 0.7 inch, diagonally, has been set on mass production line.

Specification, page 2, ¶ 1.

Accompanying with the recent demand for downsizing, however, it is no longer uncommon cases that constructing the device in accordance with the circuit layout shown in Fig. 17 is impossible. For instance, in some liquid crystal panel, the size of its substrate has to be reduced in the longitudinal direction of the gate driver. In this case, the area the source driver occupies causes a problem. That is, the number of elements constituting the source driver is greater as compared with the gate driver, and accordingly the source driver occupies a larger area. The conventional circuit layout can not deal with the downsizing because of this large occupied area of the source driver.

Specification, page 2, ¶ 3.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1 – 14 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1 and 2 contain the equation (h, k) ($h = 1 \sim m, k = 1 \sim n$). One skilled in the art cannot understand this equation. Specifically, the symbol “ \sim ” is confusing. The symbol “ \sim ” means approximately equal which makes no sense as described in the specification or claims.

Claims 3 – 14 are rejected as dependant on improper independent claims 1 or 2.

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 – 14, and 18 - 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 2 contain the equation (h, k) ($h = 1 \sim m, k = 1 \sim n$). One skilled in the art cannot understand this equation. Specifically, the symbol “ \sim ” is confusing. The symbol “ \sim ” means approximately equal which makes no sense as described in the specification or claim. For purposes of examination, it will be assumed that the equation should be written as $(h = 1, 2, 3, \dots m-1, m)$ and $(k = 1, 2, 3, \dots n-1, n)$.

Claim 1 and 2 state “the video data (h, k) constituting the first video data is converted into $\{m(k - 1) + h\}$ -th video data that constitutes the second video data.” One skilled in the art can be confused by this equation. The portion of the equation $m(k-1)$ is misleading and could more clearly be written as $m \times (k-1)$ to emphasis that m is a constant, not a function.

Claims 1 and 2 are also confusing. The phrases “video data converter circuit converts first video data ... into second video data” and “the video data (h, k) constituting the first video data is converted into $\{m(k - 1) + h\}$ -th video data that constitutes the second video data” are confusing or misleading. It is unclear to one in the field exactly what the invention is.

Claims 3 – 14 are rejected as dependant on improper independent claims 1 or 2.

Claim 18 describes a TFT display device “wherein a lateral length of the pixel portion is longer than a longitudinal length.” Since neither lateral length nor longitudinal length are

defined in the claim, this claim would apply to any rectangular display, that is almost every TFT display device described or claimed.

Claims 19 and 20 are rejected as dependant on improper independent claim 18.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 15 – 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Chimura et al., USPN 5,654,733.

Claim 15

Claim 15 describes a display device. Chimura teaches a display device. Chimura, col. 1, lines 5 – 8.

Chimura teaches a pixel portion with m x n pixels. Chimura, col. 6, lines 3 – 8. Each pixel 115 has a TFT. Chimura, col. 6, lines 17 – 20; and figure 1. A gate driver 107 feeds N gate signal lines 117. Chimura, col. 6, lines 21 – 26; and figure 1. A source driver [signal line driver portions or O driver 102 or E driver 103] feed M source signal lines 105 and 106.

Chimura, col. 6, lines 31 - 44; and figure 1. Chimura, in figure 1, shows that $m < n$, specifically that $m = 4$ and $n = 5$. See also Chimura, figures 6 and 9.

Claim 16

Claim 16 is dependant on claim 15 and adds that electronic equipment comprising a display device according to claim 15 is selected from the group consisting of a front projector, a rear projector, a head mount display, a computer, a video camera, a DVD player, and display apparatus. Chimura teaches that the display device is a display apparatus. Chimura, col. 1, lines 5 – 8.

Claim 17

Claim 17 is dependant on claim 15. Chimura teaches that the display device is a liquid crystal display device. Chimura, col. 1, lines 5 – 8.

9. Claim 18 is rejected under 35 U.S.C. 102(b) as being anticipated by Thorner, USPN 6,232,932 B1.

Claim 18

Claim 18 describes a display device. Thorner teaches a TFT display device wherein a lateral length of the pixel portion is longer than a longitudinal length. Thorner, col. 14, lines 60 – 76. It is inherent that a TFT display device as described by Thorner would include a pixel portion including a plurality of pixels each having a TFT, a gate driver provided above the pixel portion; and a source driver provided on one side of the pixel portion.

10. Claims 18 – 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriyama, USPN 5,790,092.

Claim 18

Claim 18 describes a display device. Moriyama teaches a display device comprising a pixel portion [LCD panel 8] including a plurality of pixels each having a TFT, a gate driver 10 provided above the pixel portion, and a source driver 11 provided on one side of the pixel portion. Moriyama, col. 11, lines 8 – 19; and figure 10. Figure 10 shows that the lateral length of the pixel portion is longer than a longitudinal length.

Claim 19

Claim 19 is dependant on claim 18 and adds that electronic equipment comprising a display device according to claim 18 is selected from the group consisting of a front projector, a rear projector, a head mount display, a computer, a video camera, a DVD player, and display apparatus. Moriyama teaches a display apparatus. Moriyama, col. 1, lines 8 – 13.

Claim 20

Claim 20 is dependant on claim 18. Moriyama teaches that the display device is a liquid crystal display device. Moriyama, col. 1, lines 8 – 13.

11. Claims 21 – 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki, USPN 5,287,205.

Claim 21

Claim 21 is describes a display device. Yamazaki teaches a display device having a pixel portion including a plurality of pixels each having a TFT. Yamazaki, col. 8, lines 46 – 56; and figure 6. Yamazaki teaches a plurality of gate signal lines 3 and a plurality of source signal lines 4. Yamazaki, col. 8, lines 57 – 66; and figure 6. Both lines are connected to a drivers 352 and

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364. Yamazaki, col. 9, lines 55, - col. 10, lines 17; and figure 10. Figure 5 shows that plurality of gate signal lines [V_{GG1} and V_{GG2}] are vertical and the plurality of source signal lines [V_{DD1} and V_{DD2}] are horizontal.

Claim 22

Claim 22 is dependant on claim 21. Yamazaki teaches that electronic equipment comprising a display device is selected from the group-consisting of a front projector, figure 17, a rear projector, col. 15, lines 36 – 38, a computer, figure 20, a video camera, figures 16 and 17, and display apparatus, col. 5, lines 23 - 26.

Claim 23

Claim 23 is dependant on claim 21. Yamazaki teaches a liquid crystal display device. Yamazaki, col. 5, lines 23 – 26.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Masino et al., USPN 5,189,404, teaches a rotatable display screen. The equation in page 5, lines 50 – 56 and in figure 3B has a superficial resemblance to the equation in Claims 1 and 2 of the specification.

Kang et al., USPN 5,949,408, teaches portrait and landscape displays.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leland Jorgensen whose telephone number is 703-305-2650. The examiner can normally be reached on Monday through Friday, 7:00 a.m. through 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703-305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, telephone number (703) 306-0377.

lrj



STEVEN SARAS
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